restore power to the electrical device when the line rms voltage is detected to be within the predetermined rms voltage range;

provide a visual indication when a low rms voltage condition is detected;

provide a visual indication when a high rms voltage condition is detected; and

provide a visual indication when the rms line voltage is being tested.

REMARKS

The Office Action mailed November 7, 2002 and Advisory Action dated February 28, 2003 have been carefully reviewed and the foregoing amendment and following remarks are made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 1-20 stand rejected.

The rejection of Claims 1-20 under 35 U.S.C. § 102(b) as being anticipated by Allos (U.S. Pat. No. 4,707,760) is respectfully traversed.

Allos describes a mains protection device for AC mains including a voltage supply circuit (1), a voltage comparison circuit (2); a control circuit (3); and an output and status display circuit (4). In normal operation, the device detects when the peak of the instantaneous value of alternate half cycles of the mains goes outside a predetermined range to provide a first signal state, i.e. a high condition at the output of NAND gate IC3N. When the peak value subsequently returns within range, multivibrator IC4R acts as a one minute timer to produce a second signal state (a low state at the output of NAND gates IC3N) at the end of that period if the peak remains within range. Applicant respectfully submits that the voltage controller as described by Allos operates on the AC peak-to-peak voltage characteristics, as opposed to the controller described in the present specification which operates using the characteristics of an AC RMS voltage.

For example, at column 2, lines 56-59, that "In such normal operation, during evey (sic) a.c. cycle the voltage of the cycle will exceed the low-level voltage limit on the lower voltage comparator, IC2D." Clearly, the circuitry described by Allos is using the instantaneous value of a voltage sine wave to trigger IC2D. As is known in the art, V_{rms} = $(.707)V_{peak}$ and a reference to an RMS voltage refers to a "Root Mean Square" of a zero to peak voltage taken over one cycle. Allos also describes at column 2, lines 65-67, that "[a]s the multivibrator IC4L is re-triggered every ac cycle (20 ms for 50 Hz) the output "Q1" is maintained in a logic 1 state." Allos describes the operation of the circuit as being triggered by an instantaneous value of a sine wave voltage cycle being monitored. The circuit of the present invention monitors the RMS value of the incoming voltage, which is known in the art to be a DC equivalent voltage without reference to sine wave cycles.

Further, at column 3, lines 9-11, Allos describes the operation of the low-level voltage limit, as "[i]n the event of a low voltage state existing for at least one cycle, the low-level voltage limit on the lower voltage comparator IC2D will not be exceeded...." and at column 3, lines 21-22, similarly describes the operation of an overvoltage condition, as monitoring voltage for at least one cycle, another clear reference to an instantaneous value of a sinusoidal voltage.

Furthermore, at column 4, lines 10-Allos describes that "the described embodiment detects when the peak of the instantaneous value of alternate half cycles of the mains goes outside a predetermined range to provide a first signal state...." Accordingly, Applicant submits that one skilled in the art, reading Allos would understand that the circuitry of Allos monitors the peak of the instantaneous value of alternate half cycles of a sinusoidally varying voltage of the mains, and not the RMS value of the mains.

Claim 1 recites a method for protecting an electrical device, the method comprising the steps of "monitoring a line rms voltage to detect a high rms voltage condition such that the rms voltage is above a predetermined rms voltage range...monitoring the line rms voltage to detect a low rms voltage condition such that the rms voltage is below the predetermined rms voltage range...electrically isolating the electrical device such that the electrical device

does not receive electricity when at least one of a high rms voltage condition and a low rms voltage condition is detected."

Allos does not describe nor suggest a method for protecting an electrical device wherein the method comprises monitoring a line rms voltage to detect a high rms voltage condition such that the rms voltage is above a predetermined rms voltage range, monitoring the line rms voltage to detect a low rms voltage condition such that the rms voltage is below the predetermined rms voltage range, electrically isolating the electrical device such that the electrical device does not receive electricity when at least one of a high rms voltage condition and a low rms voltage condition is detected. Moreover, Allos does not describe or suggest monitoring a line rms voltage to detect a high voltage condition such that the rms voltage is above a predetermined voltage range and monitoring the line rms voltage to detect a low voltage condition such that the rms voltage is below the predetermined range. Additionally, Allos does not describe or suggest monitoring a line rms voltage. Rather, in contrast to the present invention, Allos describes detecting when the peak of the instantaneous value of alternate half cycles of the mains goes outside a predetermined range to provide a first signal state. Applicants respectfully submit that detecting alternate half cycles of an rms voltage has no meaning, since a root mean square is a type of average that is a DC equivalent voltage and as such, has no cyclic component. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Allos.

Claims 2-9 depend from independent Claim 1. When the recitations of Claims 2-9 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claims 2-9 likewise are patentable over Allos.

Claim 10 recites a circuit for protecting an electrical device wherein the circuit is configured to "monitor a line rms voltage to detect a rms voltage above a predetermined rms voltage range...monitor the line rms voltage to detect a rms voltage below the predetermined rms voltage range...electrically isolate the electrical device such that the electrical device does not receive electricity when at least one of a rms voltage above the predetermined rms voltage range and a rms voltage below the predetermined rms voltage range is detected."

Allos does not describe or suggest a circuit for protecting an electrical device wherein the circuit is configured to monitor a line rms voltage to detect a rms voltage above a predetermined rms voltage range, monitor the line rms voltage to detect a rms voltage below the predetermined rms voltage range, electrically isolate the electrical device such that the electrical device does not receive electricity when at least one of a rms voltage above the predetermined rms voltage range and a rms voltage below the predetermined rms voltage range is detected. Moreover, Allos does not describe or suggest a circuit that is configured to monitor a line rms voltage. Rather, in contrast to the present invention, Allos describes detecting when the peak of the instantaneous value of alternate half cycles of the mains goes outside a predetermined range to provide a first signal state. Accordingly, for at least the reasons set forth above, Claim 10 is submitted to be patentable over Allos.

Claims 11-19 depend from independent Claim 10. When the recitations of Claims 11-19 are considered in combination with the recitations of Claim 10, Applicant submits that dependent Claims 11-19 likewise are patentable over Allos.

Claim 20 recites a circuit for protecting an electrical device wherein the circuit is configured to "monitor a line rms voltage to detect a high rms voltage condition such that the rms voltage is above a predetermined voltage range...monitor the line rms voltage to detect a low rms voltage condition such that the rms voltage is below the predetermined rms voltage range...electrically isolate the electrical device such that the electrical device does not receive electricity when at least one of a high rms voltage condition and a low rms voltage condition is detected...monitor the line rms voltage after electrically isolating the electrical device to detect a rms voltage within the predetermined range...restore power to the electrical device when the line rms voltage is detected to be within the predetermined voltage range...provide a visual indication when a low rms voltage condition is detected...provide a visual indication when a high rms voltage condition is detected...provide a visual indication when the line rms voltage is being tested."

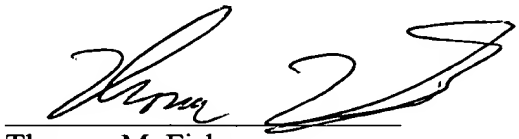
Allos does not describe or suggest a circuit for protecting an electrical device wherein the circuit is configured to monitor a line rms voltage to detect a high rms voltage condition such that the rms voltage is above a predetermined rms voltage range, monitor the line rms

voltage to detect a low rms voltage condition such that the voltage is below the predetermined rms voltage range, electrically isolate the electrical device such that the electrical device does not receive electricity when at least one of a high rms voltage condition and a low rms voltage condition is detected, monitor the line rms voltage after electrically isolating the electrical device to detect a voltage within the predetermined rms voltage range, restore power to the electrical device when the line rms voltage is detected to be within the predetermined rms voltage range, provide a visual indication when a low rms voltage condition is detected, provide a visual indication when a high rms voltage condition is detected, and provide a visual indication when the line voltage is being tested. Moreover, Allos does not describe or suggest a circuit that is configured to monitor a line rms voltage. Rather, in contrast to the present invention, Allos describes detecting when the peak of the instantaneous value of alternate half cycles of the mains goes outside a predetermined range to provide a first signal state. Accordingly, for at least the reasons set forth above, Claim 20 is submitted to be patentable over Allos.

For at least the reasons set forth above, Applicant respectfully requests that the Section 102 rejection of Claims 1-20 be withdrawn.

In view of the foregoing remarks, all the claims now active in the application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



Thomas M. Fisher
Registration No. 47,564
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mazereeuw

Serial No.: 09/682,005

Filed: July 6, 2001

For: VOLTAGE CONTROLLER

Art Unit: 2836

Examiner: Huynh, Kim Ngoc

SUBMISSION OF MARKED-UP CLAIMS

Commissioner for Patents
Mail Stop RCE
P.O. Box 1450
Alexandria, VA 22313-1450

Submitted herewith are marked up claims in accordance with 37 C.F.R. Section 1.121(c)(1)(ii).

IN THE CLAIMS

1. (twice amended) A method for protecting an electrical device, said method comprising the steps of:

not supported

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monitoring a line rms voltage to detect a high rms voltage condition such that the rms voltage is above a predetermined rms voltage range;

monitoring the line rms voltage to detect a low rms voltage condition such that the rms voltage is below the predetermined rms voltage range; and

electrically isolating the electrical device such that the electrical device does not receive electricity when at least one of a high rms voltage condition and a low rms voltage condition is detected.

6. (once amended) A method according to Claim 1 further comprising the steps of:

providing a visual indication in a first color when a low voltage condition is detected; and

providing a visual indication in a second color when a high voltage condition is detected, said second color being different than said first color.

10. (twice amended) A circuit for protecting an electrical device, said circuit configured to:

monitor a line rms voltage to detect a rms voltage above a predetermined rms voltage range;

monitor the line rms voltage to detect a rms voltage below the predetermined rms voltage range; and

electrically isolate the electrical device such that the electrical device does not receive electricity when at least one of a rms voltage above the predetermined rms voltage range and a rms voltage below the predetermined rms voltage range is detected.

20. (twice amended) A circuit for protecting an electrical device, said circuit configured to:

monitor a line rms voltage to detect a high rms voltage condition such that the rms voltage is above a predetermined rms voltage range;

monitor the line rms voltage to detect a low rms voltage condition such that the rms voltage is below the predetermined rms voltage range;

electrically isolate the electrical device such that the electrical device does not receive electricity when at least one of a high rms voltage condition and a low rms voltage condition is detected;

monitor the line rms voltage after electrically isolating the electrical device to detect a line rms voltage within the predetermined range;

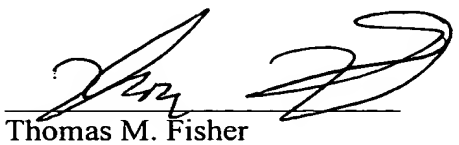
restore power to the electrical device when the line rms voltage is detected to be within the predetermined rms voltage range;

provide a visual indication when a low rms voltage condition is detected;

provide a visual indication when a high rms voltage condition is detected; and

provide a visual indication when the rms line voltage is being tested.

Respectfully submitted,



Thomas M. Fisher
Registration No. 47,564
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070